

## CHAPTER ONE

# AVIATOR'S CAVE

*People had to be strong to walk, for they walked in great strides... They would dehydrate roots and fruits for winter storage and put them in caches up and down the valleys or across the mountains. That was done so we would be noticed as being poor and without food. People did not know at the time that my people had caches. After the fruits were dehydrated, then they would go up into the mountains, over the summits, and into the meat world.*

—Emma Dann—

Mike Atwood, the chief pilot, and his co-pilot, a sergeant with the Special Response Team, boarded their Bell 222 helicopter at Central Facilities Area (CFA) to begin a routine perimeter surveillance of the Site. The two were part of the Airborne Security Program, a system that the Department of Energy had installed in 1984 to beef up the security of America's "special nuclear materials," a phrase referring to uranium, plutonium, and a few other elements.<sup>1</sup>

It was January 1985, four years before the collapse of the Berlin Wall and the beginning of the end of the Cold War. The proper name of the Site, also referred to as "the desert," was Idaho National Engineering Laboratory (INEL). The pilots flew the perimeter several times each day—and each night, equipped with night vision goggles—to check

for unauthorized entry, lost hunters, or anything else unusual. Fencing for the 894-square-mile Site had never been considered necessary—despite the classified nature of much that went on there.



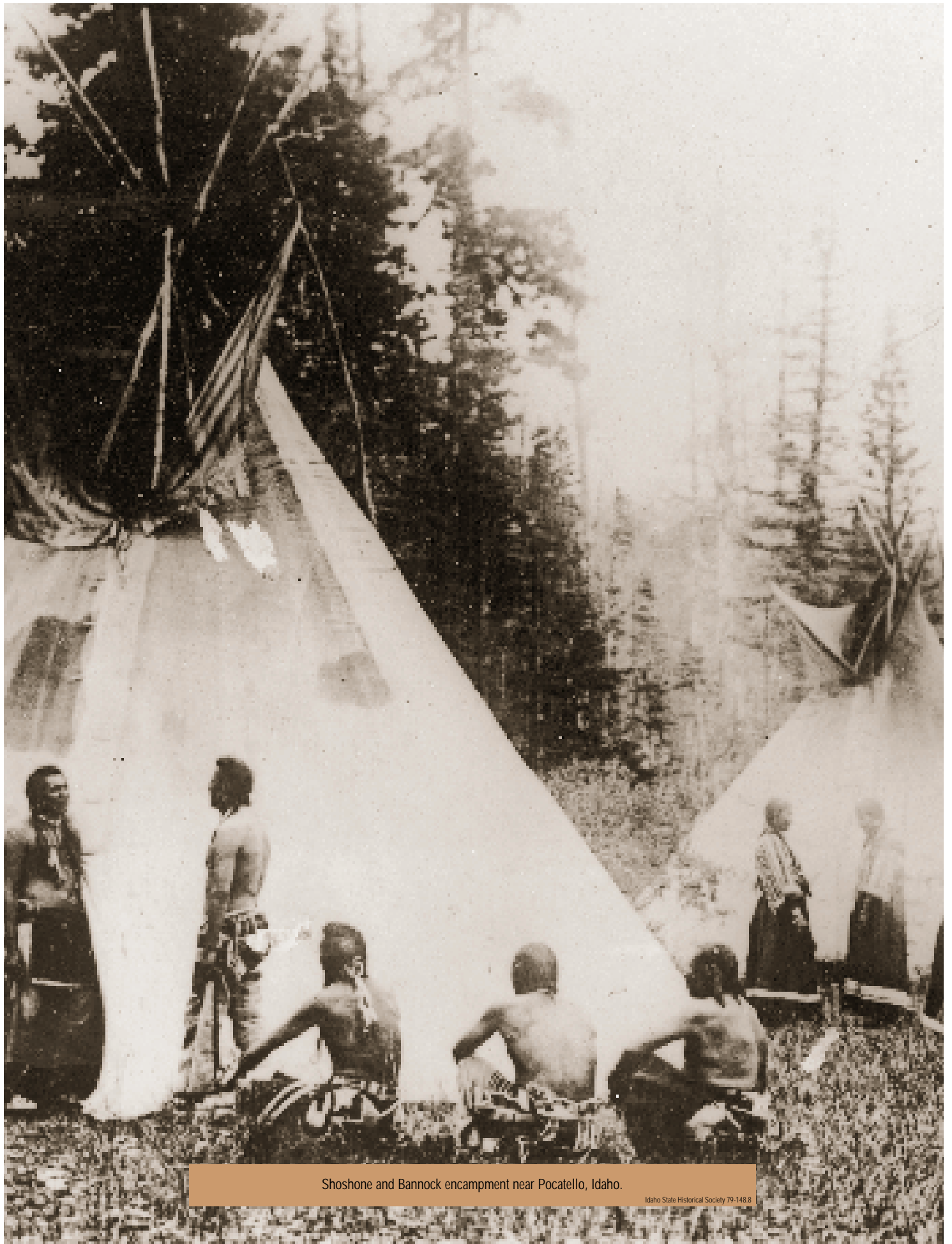
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The pilots and their helicopters were components of a new special response team trained in counter-terrorism. In the wake of the killing of over 240 U.S. Marines in Lebanon in October 1983, this heightened level of protection now lay over more traditional security measures: passes, badges, personnel securi-

ty clearances, armed guards at entry gates, secure radio channels, "Keep Out" warning signs, and a "need to know" approach to information.

Security fences topped with barbed wire did exist around several small acreages within the perimeter where the business of the Site was concentrated. Outside those fences, the land was mostly open desert. A few neighboring ranchers had privileges on the premises, enjoying concessions made during the early years when the ranchers had persuaded the Atomic Energy Commission (AEC) that there was no good reason to keep cattle and sheep from grazing the land during the few months of the year that the climate permitted.<sup>2</sup>

As the helicopter ascended, it hovered momentarily and then tilted eastward into forward flight about five hundred feet above the desert floor. At this low



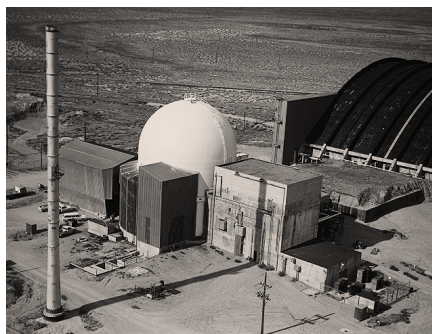
Shoshone and Bannock encampment near Pocatello, Idaho.

## P R O V I N G   T H E   P R I N C I P L E



INEEL 89-582-7-1

Test Reactor Area in foreground. Idaho Chemical Processing Plant, (now Idaho Nuclear Technology Engineering Center) in middle distance. East and Middle buttes on horizon.



INEEL 75-3690

Containment dome and emission stack for Loss of Fluid Test at Test Area North.



INEEL 73-3049

Naval Reactors Facility. Building in center houses S1W, the prototype for USS Nautilus.

altitude, the landscape retained its definition of shallow swales, knolls, small ridges, an occasional crater, and low hills. Sometimes the pilots flew twice that high, and then these details dissolved, and the desert appeared as “a broad, nearly flat plain,” a phrase used often to describe this part of the Snake River Plain. It was true, however, that pancake-flat floors of undrained basins—playas—were also a feature of the landscape at many places.<sup>3</sup>

In the sub-zero temperatures of the morning, the pilots swept over the Site, aided by the blazing blue brightness of the Idaho sky. A glance to the south always afforded a stunning view of Big Southern Butte, impressive in any season. Further east were two more buttes, named East and Middle for their relationship to Big Southern and each other. Rising over 1,400 feet from the flatness of the desert, the ancient volcanoes had been reliable landmarks for travelers through the centuries.

Below the helicopter, a carpet of snow covered the straw-toned and gray winter colors of desert grasses and low shrubs. Here and there the snowy expanse gave way to an industrial complex, its square corners and rectangular shapes contrasting sharply with the softer contours of the surrounding terrain. Approaching such a cluster from a low altitude, one might imagine an encounter with a kind of enclosed city, with towering exhaust stacks taking the place of spires and steeples, and chain-link fences surrounding the buildings instead of high stone walls.

Flying past each cluster, the pilots looked for signs of disturbance. Each area contained at least one building with a unique and unexpected shape that rose up on the horizon and drew the eye. At one, it was a large silver dome. At another, it was the dark-ribbed roof of an immense barrel-vaulted building with the doors of an airplane hangar. At another area miles away, one could see a row of round wooden cooling towers with steamy water vapor boiling into the frigid air like so many cauldrons of hot soup.

The pilots were flying a random pattern. They had observed herds of deer and elk near the eastern boundary, but no sign of poachers. They were heading back to CFA when Atwood noticed a faint wisp of steam rising from—what? Apparently nothing. The spot was several miles from one of the activity clusters, and no ribbon of road went anywhere near it. He would have known if it were the scene of some special test or experiment, so he tilted closer and circled the plume. He saw a small ridge formed by what seemed to be a lava tube. The steam drifted from a hole in the top of the tube. He decided it was merely the condensation of warm air from a void under the tube meeting the cold air outside.

Atwood noted the spot with the global positioning gear in the helicopter. He returned to base and promptly forgot about it. Something made him think of it again in 1988 and he decided to revisit the place. This time it was spring. The desert was green, almost lush-looking from the air. Again the sun was bright, but a temperature of



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seventy degrees made the expedition a more pleasant outing than it would have been before. As he hovered over the hole, he noticed that the vegetation growing near it was unusual, a different color than the sage and rabbit brush so common on the desert, a brighter shade of green.

He set the helicopter down on a flat spot about thirty feet from the hole. Lava tubes are common on this part of the Snake River Plain. These were formed as recently as 200,000 years ago when basalt magma oozed quietly out of the earth from thirty miles below, filling up low stream valleys and canyons. The outer portion of the flow cooled and hardened more quickly than the inside, providing tunnels for the hot molasses-like fluid within to move long distances before it cooled. Eventually, the magma stopped erupting and the tunnels drained. Often, all or part of the roof collapsed.<sup>4</sup>

As they approached, Atwood and his co-pilot saw a cairn near the hole. The rocks were stacked nearly three feet high. Their first thought was that an old shepherdder had erected the marker. The Snake River Plain had been a well-used crossing beginning in the late decades of the 19th century and the early 20th. Stockmen had driven cattle and sheep to the shipping centers of Montana from Oregon, Washington, and western Idaho; and their cairns had been found elsewhere on the Site.

But then the two men noticed piles of obsidian chips, thousands of them, strewn about. Suddenly they knew they would need flashlights. Fetching them from the helicopter, they returned

to the hole and beamed the light into the cavern below.

*I saw buffalo skulls with horns and a lot of other bones. You can tell buffalo by the way the horns come out lower on the skull than other animals. We climbed into the hole, stepping on rocks that led you down into it. I could smell bobcat. You had to stoop a little to get into the cave, but then the cavity really opened up and we could stand up easily. We saw a lot more bones and what looked like a fireplace the way the rocks were placed.*

*There were all kinds of things in there.<sup>5</sup>*



INEL Cultural Resources

The floor of the cave contained more obsidian chips. Amidst the thick scatter, they found what many people call “arrowheads” and what archaeologists call “projectile points.” The skulls and rocks and other objects on the floor were covered lightly with a thin film of dust. Upon exploring briefly, they realized that the lava tube had a large high-ceilinged central area and three arm-like extensions. Crevices in the rock walls contained mysterious objects made of twine, bone, and pieces of wood. Whoever had put them there had done so many hundreds of years before, and the pilots may have been the first to see them since then.<sup>6</sup>

Left. Projectile points found on the INEL site. Below. Archaeologists and members of the Shoshone-Bannock Tribe get acquainted with the interior of Aviator's Cave.



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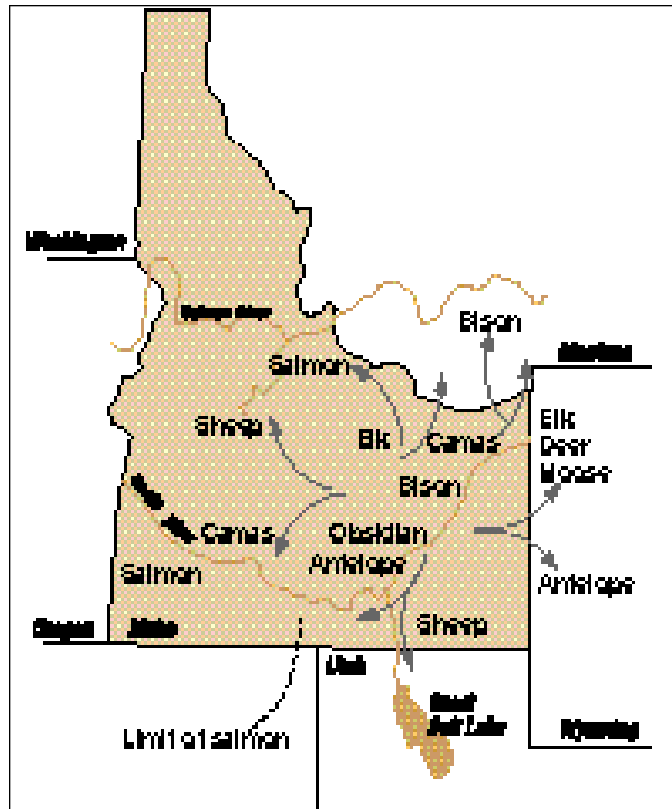
## PROVING THE PRINCIPLE

The ancestral homelands of the Shoshone and Bannock people extend across the entire length and width of the Snake River Plain, across the Site, and into the north well beyond the rugged mountains of the Bitterroot, the Lemhi, and the Lost River ranges and the valleys between them. To the south and east, they include the grassy lands around Bear Lake, the northern fringe of the Great Basin, and the bison country of Wyoming and Montana.<sup>7</sup>

It was a generous territory upon which they built their economy. They were hunters and gatherers, and the land supplied subsistence and more. The mountains and streams supplied sheep, deer, squirrel, salmon, fiber, grasses, watercress, fruit, obsidian, and fuel. Rabbits, marmots, small mammals, reptiles, and sage brush inhabited the dry desert. All these were useful. The river bottoms around the Snake River were rich in roots, camas, tules, grasses, hawks, and eagles. The people hunted bison and used its flesh and bone for food, tools, and clothing.

With these riches, the people ate and dressed well during all seasons and had choice materials with which to make the tools and goods of everyday life. They crafted baskets and pots to carry, store, and prepare food. They trapped game with snares and heated their dwellings comfortably with wood in the winter. They made spears, bows,

arrows, knives, scrapers, awls, needles, and other tools with obsidian, chert, bone, and wood. The botanical variety in the region supplied a pharmacy as well as food.



Until they began using horses in the early 1800s, Shoshone and Bannock people traveled on foot.

To live with the rhythm of the land was to understand the seasonality of the resources, and to walk from place to place accordingly. Each direction of the compass pointed to special gifts—camas to the west, bison to the north and east. When the people walked through the arid desert between the winter villages in the Fort Hall bottomlands and the

mountains to the north, they cached food and knew where to find water.

They traveled in family groups. From the winter villages, some paths took them across the Site towards the Big Lost River, one of the waterways that flowed with some reliability in the spring of the year. The desert was hot in summer and unthinkable cold in the winter. This and other caves in the area must have offered considerable comfort in either season and a useful camp for a more extended stay.

The cave contained perishable items of great age in a reasonable state of preservation. These provide some insight as to how the early travelers spent their time. When people stopped at the cave, where water from small natural basins nearby might have been available in the spring and fall, they worked. They made and

repaired clothing, snares, bows and arrows, knives. Over the years, the people left rush mats, hides, rabbit-fur robes, and pottery behind. The plants growing near the mouth of the cave were saltbush, which for some reason found this spot unusually hospitable.

Charred bison bones speak of good meals. On fine days, flint knappers worked outside; on days too cold, inside near the fire. Artisans in stone, they had no idea that people of the nuclear age would give names to their

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tools—Avonlea, Desert Side-notched, Rosegate—or that their sizes and shapes would tell a story about the passage of time.<sup>8</sup>

In the air once more, the pilots could see in the land below the subtle scars that marked the changing fortunes of the Shoshone and Bannock people. After the trappers had come, and after Eliza Spalding and Narcissa Whitman had proved in 1836 that families could cross the continent in wagons, the Oregon Trail brought a vast invasion of native lands. The wagon ruts of Goodale's Cutoff, one of its branches, is still recognizable at the southwestern corner of the Site. After the first waves of settlers, great herds of cattle and sheep moved along the trail.

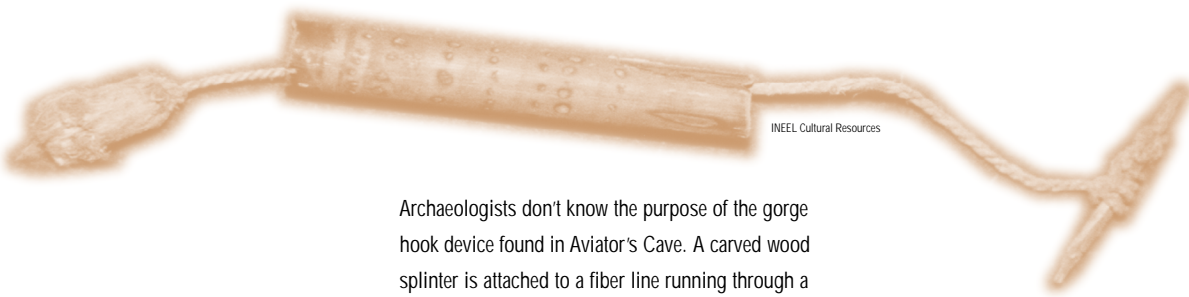
The mountains to the north contained gold, and when prospectors discovered this in the 1880s, they stimulated a substantial freighting industry between the mining towns and supply centers at Eagle Rock (now Idaho Falls) and Blackfoot. Wagon roads began to criss-cross the Site, carrying food and dry goods, mining gear, and hopeful passengers. The desert remained primarily a corridor, as it had been for the

Indians, a place for temporary camps on the way to somewhere else.<sup>9</sup>

Someone eventually did try, however, to homestead in the desert. The land seemed good, and all that was needed was to transport water to it. The serpentine tracings of old canals in the western region of the Site were easy to pick out from the air. It had required the resources of the federal government to make such irrigation projects feasible. The Carey Act of 1894 and the Reclamation Act of 1902 provided the legal framework to imagine that water from the Big Lost River could be dammed, diverted into a canal, and sent to transform the desert into a garden. The effort was doomed because the engineers miscalculated the amount of water available. They didn't understand the wind-blown soils of the desert and the layers of fractured basalt beneath the reservoirs and canals. Soils were too porous or contained too much clay. Disappointed, the settlers drifted away in the 1920s, having failed to find "salvation from the application of science and engineering expertise." So the Site lost the few inhabitants who had ever thought of residing permanently on the desert.<sup>10</sup>

Atwood reported the cave to archaeological authorities, who in turn notified members of the Shoshone-Bannock Tribe at the Fort Hall Indian Reservation in southeast Idaho. He and other pilots of the Special Response Team flew back to the place many times, carrying members of the tribe and archaeologists to the cave for visits and work trips. As the one who rediscovered the cave, he had the privilege of naming it. He chose Aviator's Cave as a gesture of acknowledgement to all the pilots in his unit.

The successive waves of trappers, pioneers, miners, and settlers in southeast Idaho had long since changed the landscape and restricted the seasonal round, although Shoshone and Bannock people continued to use some of their traditional routes. Memories of the cave live in legends. Gold had played out. Dreams of agrarian abundance had gone bankrupt. The Lost River Desert, sometimes called the Arco Desert for the village on its northern fringe, became another "remote" place in a long list of remote places in the American West. But with the coming of World War II, remoteness would prove to be its most appealing attraction.<sup>11</sup>



INEEL Cultural Resources

Archaeologists don't know the purpose of the gorge hook device found in Aviator's Cave. A carved wood splinter is attached to a fiber line running through a reed shaft. The opposite end of the line is tied to a tuft of fur, which plugs the end of the tube, preventing the line from pulling out.